



UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,029	12/29/2000	Robert H. Wilson	LEAR 0671 PUSP	7720
7590 02/20/2004			EXAMINER KAO, CHIH CHENG G	
Matthew R. Mowers Brooks & Kushman P.C. 22nd Floor 1000 Town Center Southfield, MI 48075-1351			ART UNIT	PAPER NUMBER
			2882	
DATE MAILED: 02/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,029

Applicant(s)

WILSON, ROBERT H.

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7 and 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida (US Patent 6304178).

2. With regards to claim 1, Hayashida discloses a non-contact optoelectronic system and method for automatic door closure to detect the presence of an obstruction (Abstract), the system comprising at least one transmitter (Fig. 3, #24a-n) and sensor (Fig. 3, #24a'-n') for detecting the signal emitted by the at least one transmitter, a control module for monitoring and processing signal interrupts to detect an obstruction (col. 12, lines 57-63) and a motor control signal to stop and reverse upon detection of an obstruction in a window (col. 26, lines 3-6).

However, Hayashida does not specifically disclose the motor control signal in a door.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the system and method of Hayashida with a reversing motor control signal in a door, since one would be motivated to incorporate it for safety as shown by Hayashida (col. 26, lines 9-11) and since it would have been obvious to incorporate it for different applications as shown by Hayashida (col. 1, lines 5-13, and col. 26, lines 42-47) for safety.

Art Unit: 2882

3. With regards to claims 3 and 12, Hayashida suggests a system and method as recited above. Hayashida further discloses an entry area defined by a passage in a body, a door jamb, and a door (Fig. 21).

However, Hayashida does not specifically disclose the entry area of a vehicle.

Hayashida further teaches that this system may be employed with a vehicle (col. 1, lines 5-10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the system of Hayashida with an entry area of a vehicle, since Hayashida discloses that these applications are art-recognized equivalents (col. 1, lines 5-10) and would have found it obvious to adapt the system into various applications. Secondly, it would have been obvious, to modify the entry area as shown by Hayashida (Figs. 3, 10, 12, 13, 21, 23, 24, 28A, 29, 32A, and 36A, and col. 26, lines 18-20) to ensure that something does not collide with the door (see Figs. 1 and 13 for example).

4. With regards to claims 4 and 15, Hayashida further discloses a pair of transmitters on an inner surface of the door (Fig. 3, #4 and 24a-n).

5. With regards to claims 5-7, 16, and 17, Hayashida further discloses sensors in an array on an inner surface of a door jamb (col. 3, lines 48-54, and Fig. 3).

Art Unit: 2882

6. With regards to claims 14 and 19, Hayashida suggests a system and method as recited above. Hayashida further discloses the control module activating the transmitter and sensor upon a signal from a switching mechanism to close (col. 25, lines 61-66).

7. With regards to claims 2, 13, and 20, Hayashida further discloses the control module processing signal interrupts and comparing them against stored values to determine an obstruction (col. 12, lines 57-63).

8. With regards to claims 11, 18, and 21, Hayashida further discloses infrared light (col. 5, lines 50-51).

9. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida as applied to claim 1 above, and further in view of Chapdelaine et al. (US Patent 6157024).

10. With regards to claims 8 and 9, Hayashida suggests a device as recited above.

However, Hayashida does not disclose a reflective coating on the inner surface of a door and door jamb to reflect the emitted signal.

Chapdelaine et al. further discloses a reflective coating on the inner surface to reflect the emitted signal (col. 11, lines 42-52).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Hayashida with the reflective coating of

Art Unit: 2882

Chapdelaine et al., since one would be motivated to increase reflectance to improve detector signal-to-noise ratio as implied from Chapdelaine et al. (col. 3, lines 1-10) for a better signal.

It would also have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Hayashida in view of Chapdelaine et al. with reflective coatings on a door and door jamb, since rearranging parts of an invention involves only routine skill in the art as shown by Chapdelaine et al. (Fig. 2). One would be motivated to have the reflective coatings in the periphery, such as a door or door jamb, to cover areas where an object may be pinched as shown by Chapdelaine et al. (Fig. 2).

11. With regards to claim 10, Hayashida in view of Chapdelaine et al. suggests a device as recited above.

However, Hayashida does not disclose a metallic reflective coating.

Chapdelaine et al. further discloses a metallic reflective coating (col. 12, lines 35-50).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, ^{have} to the suggested device of Hayashida in view of Chapdelaine et al. with the metallic reflective coating, since one would be motivated to increase reflectance to improve a detector's signal-to-noise ratio as implied from Chapdelaine et al. (col. 3, lines 1-10) for a better signal.

12. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida as applied to claim 19 above, and further in view of Boiucaner (US Patent 5142152).

Hayashida suggests a method as recited above.

However, Hayashida does not disclose a hardware fault detection of obstruction detection during the opening of an automatic door, wherein the step further comprises sending a pulse of infrared light from the transmitter to the sensor to test the system.

Boiucaner teaches a hardware fault detection of obstruction detection during the opening (col. 8, lines 15-20) of an automatic door (Fig. 1), wherein the step further comprises sending a pulse of infrared light (col. 4, lines 22-30) from the transmitter to the sensor (Fig. 1) to test the system (Fig. 10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested method of Hayashida with hardware fault detection of Boiucaner, since one would be motivated to run this test to insure that something that is being registered as an obstruction is an obstruction to be concerned with as implied from Boiucaner (col. 8, lines 15-30).

Response to Arguments

13. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

14. Applicant's arguments, see Page 4, lines 13-15, filed 12/11/03, with respect to the rejection(s) of claim(s) 1-23 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hayashida. Hayashida shows that one of ordinary skill

Art Unit: 2882

in the art would have found it obvious to use collision prevention technology with various aperture-closing technologies (col. 1, lines 5-13, and col. 26, lines 42-47).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER